



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,501	12/23/1999	FRANCIS BOLLEY	612.37981X00	7486

20457 7590 09/26/2003

ANTONELLI, TERRY, STOUT & KRAUS, LLP  
1300 NORTH SEVENTEENTH STREET  
SUITE 1800  
ARLINGTON, VA 22209-9889

EXAMINER

PECHHOLD, ALEXANDRA K

ART UNIT

PAPER NUMBER

3671

DATE MAILED: 09/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/471,501

Applicant(s)

BOILLEY, FRANCIS

Examiner

Alexandra K Pechhold

Art Unit

3671

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 31 July 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) \_\_\_\_\_ is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 13-16 is/are allowed.

6) Claim(s) 6,7,9,11,12,17-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.

4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 9, 11, and 17 are objected to because of the following informalities: applicant does not recite “a junction” before reciting “the junction” in each of these independent claims. Applicant is most likely referring to the junction between the rigid and flexible risers, but this could be more clearly expressed to prevent any ambiguity. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 7, 9, 11, 12, 17, 19, and 20 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Remery (US 4,279,543) in view of Brown et al (US 5,505,560).**

Regarding claims 9, 17, and 20, Remery discloses a flexible riser part seen as flexible tube (6), connected to a point below the surface, and a rigid riser part seen as pipe (3) connected to the flexible riser part and to the floating support as shown in Fig.

1. Pipe (3) appears to have a length equal to half the water depth.

Remery fails to disclose a catenary anchor system applied to the rigid riser part in the vicinity of the junction and/or in the vicinity of the connector between the flexible riser part and rigid riser part, and comprising one or more tendons anchored to a sea bottom. Brown teaches a fluid transfer system for an offshore moored floating unit, wherein at the junction of the upper portion (5) and the lower catenary (6) lies a subsurface buoy (7) connected with line (10) to a clump weight (11) to the seabed (3) (Col 2, lines 15-30). Brown states that the use of the clump (11) with the tether or line (10) connected thereto keeps the buoyancy body in position (Col 1, lines 50-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pipe of Remery to include a catenary anchor system applied to the rigid riser part in the vicinity of the junction and/or in the vicinity of the connector between the flexible riser part and rigid riser part, and comprising one or more tendons anchored to a sea bottom as taught by Brown, since Brown states in column 1, lines 50-55 that use of the clump (11) with the tether or line (10) connected thereto keeps the buoyancy body in position.

Remery fails to disclose pipe (3) connected to a source of fluid to be injected and tube (6) connected to a point where the fluid is injected, instead disclosing that the device conveys a medium from a fixed position on the bottom below the water surface to an anchored buoy floating on the water (Col 1, lines 7-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the direction of medium flow in Remery to be from the buoy at the water surface to the fixed position on the bottom, since if it were desired to direct a medium to the

Art Unit: 3671

bottom of the sea, it would be flow in this direction, and furthermore pipes are known to operate in both directions.

Regarding claim 11, Remery discloses the limitations of the claimed invention as discussed in claim 9 above.

Remery fails to disclose the transfer of fluid between a floating support and a point below the water surface, instead disclosing that the device conveys a medium from a fixed position on the bottom below the water surface to an anchored buoy floating on the water (Col 1, lines 7-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the direction of medium flow in Remery to be from the buoy at the water surface to the fixed position on the bottom, since if it were desired to direct a medium to the bottom of the sea, it would be flow in this direction, and furthermore pipes are known to operate in both directions.

Remery also fails to disclose a catenary anchor system applied to the rigid riser part in the vicinity of the junction and/or in the vicinity of the connector between the flexible riser part and rigid riser part. Brown teaches a fluid transfer system for an offshore moored floating unit, wherein at the junction of the upper portion (5) and the lower catenary (6) lies a subsurface buoy (7) connected with line (10) to a clump weight (!1) to the seabed (3) (Col 2, lines 15-30). Brown states that the use of the clump (11) with the tether or line (10) connected thereto keeps the buoyancy body in position (Col 1, lines 50-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pipe of Remery to include a catenary anchor system applied to the rigid riser part in the vicinity of the junction and/or in the vicinity of

the connector between the flexible riser part and rigid riser part as taught by Brown, since Brown states in column 1, lines 50-55 that use of the clump (11) with the tether or line (10) connected thereto keeps the buoyancy body in position.

Regarding claim 12, the buoyant body (8) of Remery provides additional tension in the tube (6).

Regarding claims 7 and 19, a holding means in Remery can be viewed as joint (2) fastened to the buoy (1), since the pipe is fastened to the buoy with the joint and hangs downwardly from the buoy in the water (see abstract).

**4. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Remery (US 4,279,543) as applied to claims 11 and 17 above, and further in view of Willis (EPO 0467635 A2).** Remery discloses the limitations of the claimed invention except for heat insulation means placed on at least the rigid part and/or flexible part. Willis teaches thermally insulating compositions and a method of insulating pipeline bundles and pipeline riser caissons. Willis states that it is necessary to insulate pipelines in order to prevent the temperature of the fluid traveling through the pipeline from significantly dropping, and that it is known to apply an inner or outer insulating layer to pipelines (page 2, lines 4-23). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the rigid or flexible part of Remery to have heat insulation means as taught by Willis, since Willis states on page 2, lines 4-23 that it is necessary to insulate pipelines in order to prevent the temperature of the fluid traveling through the pipeline from significantly dropping, and that it is known to apply an inner or outer insulating layer to pipelines.

***Allowable Subject Matter***

5. Claims 13-16 are allowed.

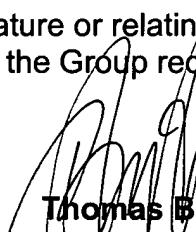
***Response to Arguments***

6. Applicant's arguments filed 7/31/03 have been considered but are moot in view of the new grounds of rejection. Applicant has amended claims 9, 11, and 17 to more clearly recite the desired claim language by adding the language "in the vicinity". As amended, the claim language is much clearer. The Examiner is now using the teaching in Brown et al (US 5,505,560) of a catenary anchor system with a tendon anchored to the sea bottom in order to reject the independent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

  
Thomas B. Will  
*Supervisory Patent Examiner*  
Group 3600

9/12/03